Review of: "An Improved Hybrid Transfer Learning-Based Deep Learning Model for Alzheimer's Disease Detection Using CT and MRI Scans"

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Authors conducted a comparative study using Dennet121, Vgg16 and ResNEt50 to identify Alzheimer's disease using MRI images from ADNI dataset. The paper is interesting, but several concerns need to be addressed before it can be accepted for publication, as follows:

1. **Title**: The title claims improved hybrid techniques, but the study only conducted a comparative study using Dennet121, Vgg16 and ResNwt50. Besides, the title includes CT Scan, but the dataset used is from MRI images only.

2. **Abbreviations in Abstract:** Write down the full names of EMCI, MCI, LMCI and AD in the abstract for the first time they are used.

3. **Ensemble Contribution**: Authors claim ensemble in their contribution, but the study only conducted a comparative study using Dennet121, Vgg16 and ResNEt50.

4. **Literature Review**: Enhance the literature review section to provide a more comprehensive understanding of the existing work in the field and explicitly state the research gap addressed by the current study.

5. **Model Selection Rationale**: Explain the rationale behind choosing Dennet121, Vgg16, and ResNet50 for the study. Discuss their strengths and why they are suitable for the task.

6. Move the architecture of Densent121 as shown in Figure 5 to Section 3.3.

7. Move the architecture of ResNet50 as shown in Figure 7 to Section 3.2.

8. Add in the architecture of VGG16 in Section 3.1

9. **Downsampling Clarification**: Clarify why downsampling was performed despite Table 2 showing balanced datasets for each class.

10. **Number of Classes**: Confirm the number of classes used in the study. The abstract mentions 4 classes: EMCI, MCI, LMCI and AD, but Table 2 has an extra class (NC) and the total number of testing and validation images in Section 5 is 450, which 90 for each category.

11. **Image Data Generator Settings**: List down settings used for Image Data Generator.

12. **Augmentation Effects in Figure** 3: Show the initial and after-effect of each augmentation technique in Figure 3.

13. **Number of Images Used Clarification**: Confirm the number of images used in the study. Section 5 states 2900 images were used, but there seems to be a discrepancy with the total number of images in Table 2.

14. Move Text in Section 5.1 to Section 3.3

15. Provide a detailed discussion of Figure 4.

16. **Performance Metrics**: Show each model's confusion matrix, classification report, and ROC curve.

17. Figure 5 shows the architecture of DenseNEt121, not the classification results.

18. Clarify whether 96.0 accuracy in Section 5.2 is validation accuracy or testing accuracy.

19. Clarify whether Tables 2-3 are from the validation or testing sets.

20. Address the absence of ROC mentioned in Section 6 and explain any discrepancies in sensitivity and recall.

21. Check and correct the grammar in the statement regarding future studies using the same model for other disorders with the same data modality.